LISTING OF CLAIMS

The listing of claims provided below replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A conditioning apparatus for use in a chemical mechanical planarization (CMP) system, comprising:

a conditioning substrate;

a holder configured to hold the conditioning substrate;

a shaft connected to the holder; and

oscillation mechanics capable of moving the shaft in an oscillatory manner such that the conditioning substrate is moved about a centroid of the conditioning substrate, the oscillation mechanics further configured to move the shaft and conditioning substrate attached thereto in a random manner about the centroid of the conditioning substrate.

2. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 1, wherein the oscillation mechanics are configured to move the shaft and conditioning substrate attached thereto in a specific oscillation pattern about the centroid of the conditioning substrate.

3. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 2, wherein the specific oscillation pattern is represented as one of an orbital oscillation pattern and a linear oscillation pattern.

4-5. (Cancelled)

6. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 1, further comprising:

a positioning arm configured to engage the shaft, the positioning arm capable of sweeping the conditioning substrate over a working surface of a CMP pad in tandem with operation of the oscillation mechanics.

7-12. (Cancelled)

13. (Currently Amended) A conditioning apparatus for use in a chemical mechanical planarization (CMP) system, comprising:

a conditioning substrate having an active side and a backside; ~~and~~

a conditioning substrate backing capable of defining a differential pressure distribution across the backside of the conditioning substrate, whereby different pressures can be applied to specific regions of the backside of the conditioning substrate;

a holder configured to receive and hold both the conditioning substrate backing and the conditioning substrate;

a shaft being connected to the holder; and

rotation mechanics capable of rotating the shaft causing the holder, the conditioning substrate backing, and the conditioning substrate to be rotated with the shaft.

14. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 13, wherein the conditioning substrate backing is configured as a fluid conditioning substrate backing, the fluid conditioning substrate backing being defined by a number of fluid chambers, each of the number of fluid chambers capable of applying a specific pressure to the backside of the conditioning substrate.

15. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 14, wherein the fluid conditioning substrate backing is configured to allow the differential pressure distribution to be controlled during a CMP process.

16. (Cancelled)

17. (Previously Amended) The conditioning apparatus for use in a CMP system as recited in claim 13, wherein the conditioning substrate is configured to transfer the differential pressure distribution from the backside of the conditioning substrate to the active side of the conditioning substrate.

18-22. (Cancelled)

23. (Previously Presented) The conditioning apparatus for use in a CMP system as recited in claim 1, further comprising:

rotation mechanics capable of rotating the shaft causing the holder and the conditioning substrate to be rotated with the shaft.

24. (Previously Presented) The conditioning apparatus for use in a CMP system as recited in claim 1, wherein the centroid of the conditioning substrate represents a point from which all distances to an outer periphery of the conditioning substrate sum to zero.

25. (Previously Presented) A conditioning apparatus for use in a chemical mechanical planarization (CMP) system, comprising:

a conditioning substrate;

a holder configured to hold the conditioning substrate;

a shaft connected to the holder;

rotation mechanics capable of rotating the shaft causing the holder and the conditioning substrate to be rotated with the shaft; and

oscillation mechanics capable of moving a position of the shaft within a region defined by a circular peripheral boundary having a radius that is less than ten percent of a radius defining the outer periphery of the conditioning substrate.

26. (Previously Presented) A conditioning apparatus for use in a chemical mechanical planarization (CMP) system, comprising:

a conditioning substrate having an active side and a backside; and

a conditioning substrate backing capable of defining a differential pressure distribution across the backside of the conditioning substrate, wherein the conditioning substrate backing is configured as a solid conditioning substrate backing, the solid conditioning substrate backing being defined by a number of material regions being differentiated by spring constant values, each of the number of material regions capable of applying a specific pressure to the backside of the conditioning substrate.